

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A loudspeaker comprising:

a support;

a diaphragm mounted on the support; and

a piezoelectric actuator arranged to provide, on activation, relative movement between two ends of the actuator, wherein each of said ends of the actuator is coupled to the diaphragm to vibrate the diaphragm on activation of the actuator, a portion of the diaphragm coupled to one end of the actuator being fixed relative to the support.
2. (Cancelled)
3. (Currently Amended) A loudspeaker according to claim 2~~1~~, wherein the one end of the actuator is coupled to a portion of the diaphragm at the edge of the diaphragm.
4. (Currently Amended) A loudspeaker according to claim ~~2 or 3~~1, wherein the diaphragm has an aperture separating portions of the diaphragm coupled to the respective ends of the actuator.
5. (Currently Amended) A loudspeaker according to ~~any one of claims 2 to 4~~claim 1, further comprising a seal member between the diaphragm and the support extending around the periphery of a portion of the diaphragm, wherein the one end of the actuator

is coupled to a portion of the diaphragm outside the seal member and the opposite end of the actuator is coupled to a portion of the diaphragm adjacent or inside the seal member.

6. (Currently Amended) A loudspeaker according to ~~any one of claims 2 to 5~~claim 1, wherein the actuator is longer in transverse extent than in extent between the two ends.

7. (Currently Amended) A loudspeaker according to ~~any one of claims 2 to 6~~claim 1, further comprising at least one stop member coupled to the diaphragm adjacent said one end of the actuator and extending to a position adjacent said opposite end of the actuator for limiting the movement of the portion of the diaphragm coupled to the opposite end of the actuator.

8. (Currently Amended) A loudspeaker according to ~~any one of claims 2 to 7~~claim 1, wherein the portion of the diaphragm coupled to one end of the actuator is fixed relative to the support by being coupled directly to the support.

9. (Currently Amended) A loudspeaker according to ~~any one of claims 2 to 7~~claim 1, further comprising a rigid bridge element coupled to the one end of the actuator and also coupled to a further portion of the diaphragm separated from the actuator, the portion of the diaphragm coupled to one end of the actuator being fixed relative to the support by the further portion of the diaphragm being coupled to the support.

10. (Currently Amended) A loudspeaker according to ~~any one of the preceding claims~~claim 1, wherein the actuator extends between the two ends in a curve.
11. (Original) A loudspeaker according to claim 10, wherein said curve is a sector of a circle.
12. (Currently Amended) A loudspeaker according to claim ~~10 or 11~~, wherein the opposite end of the actuator has an end surface facing the diaphragm.
13. (Original) A loudspeaker according to claim 12, wherein said opposite end of the actuator is coupled indirectly to the diaphragm by a spacer.
14. (Currently Amended) A loudspeaker according to ~~any one of claims 10 to 13~~claim 10, wherein one end of the actuator is coupled directly to the diaphragm by a side surface of the actuator, the actuator extending from said one end in a loop over said one end.
15. (Currently Amended) A loudspeaker according to ~~any one of claims 1 to 9~~claim 1, wherein the actuator is straight.
16. (Currently Amended) A loudspeaker according to ~~any one of the preceding claims~~claim 1, wherein the actuator has a bender construction.

17. (Currently Amended) A loudspeaker according to ~~any one of the preceding~~
~~claims~~claim 1, wherein the actuator comprises ceramic piezoelectric material.

18. (Currently Amended) A loudspeaker according to ~~any one of the preceding~~
~~claims~~claim 1, wherein the support is a portion of a housing of an electronic device.

19. (Currently Amended) A loudspeaker assembly comprising:
a diaphragm; and
a piezoelectric actuator arranged to provide, on activation, relative movement
between two ends of the actuator, each of said ends being coupled to the diaphragm to
vibrate the diaphragm on activation of the actuator, one end of the actuator is coupled to
a portion of the diaphragm at the edge of the diaphragm.

20. (Cancelled)

21. (Currently Amended) A loudspeaker assembly according to claim 19 ~~or 20~~,
wherein the diaphragm has an aperture separating portions of the diaphragm coupled to
the respective ends of the actuator.

22. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19~~
~~to 21~~claim 19, further comprising a seal member between the diaphragm and the
support extending around the periphery of a portion of the diaphragm, wherein the one
end of the actuator is coupled to a portion of the diaphragm outside the seal member

and the opposite end of the actuator is coupled to a portion of the diaphragm adjacent or inside the seal member.

23. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 22~~claim 19, wherein the actuator is longer in transverse extent than in extent between the two ends.

24. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 23~~claim 19, further comprising at least one stop member coupled to the diaphragm adjacent said one end of the actuator and extending to a position adjacent said opposite end of the actuator for limiting the movement of the portion of the diaphragm coupled to the opposite end of the actuator.

25. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 24~~claim 19, further comprising a rigid bridge element coupled to the one end of the actuator and also coupled to a further portion of the diaphragm separated from the actuator.

26. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 25~~claim 19, wherein the actuator extends between the two ends in a curve.

27. (Currently Amended) A loudspeaker assembly according to claim 26, wherein said curve is a sector of a circle.

28. (Currently Amended) A loudspeaker assembly according to claim 26 ~~or 27~~, wherein the opposite end of the actuator has an end surface facing the diaphragm.

29. (Original) A loudspeaker assembly according to claim 28, wherein said opposite end of the actuator is coupled indirectly to the diaphragm by a spacer.

30. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 29~~ claim 19, wherein one end of the actuator is coupled directly to the diaphragm by a side surface of the actuator, the actuator extending from said one end in a loop over said one end.

31. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 30~~ claim 19, wherein the actuator is straight.

32. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 31~~ claim 19, wherein the actuator has a bender construction.

33. (Currently Amended) A loudspeaker assembly according to ~~any one of claims 19 to 32~~ claim 19, wherein the actuator comprises ceramic piezoelectric material.